UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,299	01/19/2001	Hitoshi Ishida	2565-221P	6355

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EXAMINER
BURGESS, BARBARA N

ART UNIT	PAPER NUMBER
2157	

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/764,299	ISHIDA ET AL
	Examiner	Art Unit	
	Barbara N. Burgess	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☒ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

This Office Action is in response to Amendments filed January 19, 2005. Claims 1-26

are presented for further examination. Claims 27-34 are presented for initial

examination.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 11-15, 21, 23-24, 26 are rejected under 35 U.S.C. 102(b) as being

anticipated by Ilg et al. (hereinafter "Ilg", US Patent No. 4,829,297).

As per claim 11, Ilg discloses a system for sending and receiving serial data

·comprising:

*   A primary station configured for sending, in a determined time, a refresh request and

    a polling request in a specific order without having each secondary station address

    in determined time (column 1, lines 36-44);

*   A plurality of secondary stations for responding to the primary station, following to

    the specific order (column 1, lines 36-47);

*   Wherein the primary station is also configured to retry the refresh request and the

    polling request within the determined time to all of the plurality of secondary stations

that failed to respond to the refresh request and polling request (column 7, lines 45-65);

- Wherein the refresh request is a request to an output type secondary station to output data external to the system and the polling request is a request to the input type secondary station to send data to the primary station (column 3, lines 35-48, column 4, lines 26-32).

As per claim 12, Ilg discloses:

- The secondary station has one of a counter and a time monitoring a response from another secondary station and response time, and makes a response of its own station after one of a respectively set order and response time (column 1, lines 36-47).

As per claim 13, Ilg discloses:

- The secondary station has a monitoring responder for responding to the primary station in a determined order after the response time is passed in monitoring (column 5, lines 31-40).

As per claims 14 and 15, Ilg discloses:

- The primary station provides a field for showing that a normal response to the refresh request for the secondary station can be skipped, wherein the secondary station stops a normal refresh response based on the field (column 5, lines 31-40);

- The primary station provides a field for showing that an error report from the secondary station is possible in the refresh response, wherein the secondary station has a monitor for monitoring an error in an own station, wherein the secondary station returns an error response based on the field (column 5, lines 31-40).

As per claims 21, 24, Ilg discloses a system for sending and receiving serial data, comprising:

- A plurality of secondary stations configured to respond to one of a refresh request and a polling request (column 1, lines 20-23, column 2, lines 20-23, Figure 1);

- A master station operbly connected to said secondary stations, said master station configured to perform first and second sequence of responses in a predetermined fixed period of time (column 1, lines 17-19, 36-38, column 2, lines 20-22, Figure 1);

- Master station determining a first sequence of responses by sequentially sending one of a refresh request and a polling request to each secondary station and recording a response from each secondary station (column 1, lines 36-47, column 9, lines 14-38);

- Master station determining a second sequence of responses by sequentially sending one of the refresh request and the polling request to each secondary station associated with an abnormal response in the first sequence of responses (column 4, lines 1-5, column 7, lines 53-55, 60-62, 68, column 8, lines 1-5, 20-23, column 9, lines 24-28);

- Wherein the refresh request is a request to an output type secondary station to

   output data external to the system and the polling request is a request to the input

   type secondary station to send data to the primary station (column 3, lines 35-48,

   column 4, lines 26-32).

As per claims 23 and 26, Ilg further discloses wherein the abnormal response

includes a busy response and a time (column 8, lines 7-9).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-4, 6-10, 16-17, and 20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Joshi et al. (hereinafter "Joshi", US Patent No. 6,006,017) in view of

Callaway et al. (hereinafter "Callaway", US Patent No. 6,275,500 B1).

As per claims 1 and 16, Joshi discloses a system for sending and receiving serial

data comprising:

- A plurality of secondary stations each configured for receiving a refresh request in a

   determined time and for sending one of data and response to a primary station

   (column 5, lines 24-35, 60-65);

- The primary station for sending the refresh request and a polling request asking for sending data (column 5, lines 44-55);

- Wherein the refresh request is a request to an output type secondary station to output data external to the system, the synchronization request is a request to an input type secondary station to prepare data, and the polling request is a request to the input type secondary station to send data to the primary station (column 5, lines 1-16, column 6, lines 28-40, column 7, lines 38-61)

  Joshi does not explicitly disclose:

- A plurality of secondary stations each configured for receiving a synchronization request;

- The primary station further configured for sending the synchronization request simultaneously to the plurality of the secondary stations;

- For retrying one of the polling request and the refresh request within the same determined time to all secondary stations from which the primary station failed to receive one of the data and the response;

However, in an analogous art, Callaway discloses all slave devices are polled at a first interval. The master polls the slaves by sending a broadcast directing slave members to transmit a response. As well, the first communication is for synchronization purposes (column 3, lines 1-3, column 4, lines 55-60, column 5, lines 50-52).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement Callaway's sending a synchronization request simultaneously to the secondary stations and retrying requests within the same

determined time to all secondary stations in Joshi's system in order to receive status

reports on the slaves' independent communications.

As per claims 2 and 17, Joshi discloses:

• The primary station includes a retry number counter for counting one of a polling

   request retried and a refresh request retried, wherein retrying of one of the polling

   request and the refresh request is stopped after one of a determined number and

   determined time has passed (column 8, lines 44-62).

As per claims 6 and 20, Joshi discloses:

• The primary station stores information on a type for each of the secondary stations,

   wherein the primary station skips sending the polling request in the determined time

   for the secondary station having failure to respond within the determined time

   (column 8, lines 58-65).

As per claim 7, Joshi discloses:

• The primary station stores information on a type for each of the secondary stations,

   wherein the primary station ignores data from the secondary station having failure to

   respond within the determined time (column 9, lines 1-20)

As per claim 8, Joshi discloses:

- The primary station stores an error state of each of the secondary stations, wherein the primary station sends an initialization request to the secondary station, when the secondary station in the error state returns to a normal response state (column 9, lines 25-35)

As per claim 9, Joshi discloses:

- The primary station stores information of a type for each of the secondary stations, wherein the primary station collects information of the secondary station before sending and compares the collected information with the information of the type before sending the initialization request (column 8, lines 55-65).

As per claim 10, Joshi discloses:

- One of the primary station and the secondary station sends a high level signal for a short period after sending a frame (column 11, lines 45-52).

3.   Claims 3-4, 18 are rejected under 35 U.S.C. 103(a) as being anticipated by Joshi et al. (hereinafter "Joshi", US Patent No. 6,006,017) in view of Callaway et al. (hereinafter "Callaway", US Patent No. 6,275,500 B1) in further view of Ilg et al. (hereinafter "Ilg", US Patent No. 4,829,297).

As per claim 3, Joshi, in view of Callaway, does not explicitly discloses:

- The primary station includes a record corresponding to each of the secondary stations, wherein a retry flag is set, when a normal response is not received, wherein

the retry flag remains in the record corresponding to each of the secondary stations

after stopping retrying of one of the polling request and the refresh request.

However, in an analogous art, Ilg discloses setting an inactive flag indicating a polled

station is inactive (column 7, lines 60-62, 68, column 8, lines 20-23, column 9, lines 24-

28).

Therefore, one of ordinary skill in the art at the time the invention was made would

have found it obvious to implement or incorporate Ilg's retry flag in Joshi's system in

order to determine whether a station is inactive.

As per claims 4 and 18, Joshi does not explicitly discloses:

- The secondary station responds in a response frame of a compact type by using a

  flag code which is different from a flag code of the primary station (column 8, lines 7-

  9).

However, in an analogous art, Ilg discloses setting an inactive flag indicating a polled

station is inactive (column 7, lines 60-62, 68, column 8, lines 20-23, column 9, lines 24-

28).

Therefore, one of ordinary skill in the art at the time the invention was made would

have found it obvious to implement or incorporate Ilg's retry flag in Joshi's system in

order to determine whether a station is inactive.

5.   Claims 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Joshi et al. (hereinafter "Joshi", US Patent No. 6,006,017) in view of Callaway et al.

(hereinafter "Callaway", US Patent No. 6,275,500 B1and in further view of Davis et al. (hereinafter "Davis", 4, 363, 093).

As per claims 5 and 19, Joshi, in view of Callaway, does not explicitly disclose:

* The secondary station returns a busy response, when data for responding for the polling request from the primary station are failed to be prepared, wherein the primary station retries a polling request for the secondary station which has sent the busy response.

However, the use and advantages for the secondary station returning a busy response is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Davis (column 38, lines 32-41).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate returning a busy signal in Joshi's system in order to for the host processor to know that the status of the station is busy and a response cannot be provided.

6.   Claims 22, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ilg et al. (hereinafter "Ilg", US Patent No. 4,829,297) in view of Callaway et al. (hereinafter "Callaway", US Patent No. 6,275,500 B1).

As per claims 22 and 25, Ilg does not explicitly disclose:

- Each of the plurality of secondary stations is configured to prepare the response to a synchronization request;

- Master station is configured to simultaneously send the synchronization request to the plurality of the secondary stations.

However, in an analogous art, Callaway discloses all slave devices are polled at a first interval. The master polls the slaves by sending a broadcast directing slave members to transmit a response. As well, the first communication is for synchronization purposes (column 3, lines 1-3, column 4, lines 55-60, column 5, lines 50-52).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement Callaway's sending a synchronization request simultaneously to the secondary stations and retrying requests within the same determined time to all secondary stations in Ilg's system in order to receive status reports on the slaves' independent communications.

7.   Claims 27- are rejected under 35 U.S.C. 103 (a) as being unpatentable over Ilg et al. (hereinafter "Ilg", US Patent No. 4,829,297) in view of Gilbert et al. (hereinafter "Gilbert", US Patent No. 5,297,144).

As per claim 27, Ilg discloses a system for sending and receiving serial data, comprising:

- One or more input type secondary stations each configured for preparing data for transfer in response to a request from a primary station (column 1, lines 20-23, column 2, lines 47-50);

- Configured for transferring the prepared data to the primary station in response a polling request from the primary station (column 6, lines 1-3, 9-15);

- One or more output type secondary stations each configured for preparing and transferring data externally from the system and sending an acknowledgement to the primary station in response to a refresh request from the primary station (column 6, lines 1-3, 9-15, column 7, lines 5-9, 12-15);

- The primary station configured for sending refresh requests to all output type stations, sending polling requests to all input type secondary stations, and receiving data from all input type stations, all in a predetermined fixed period of time (column 1, lines 17-19, column 2, lines 20-22, 47-50);

- Wherein the primary station is also configured for detecting abnormal responses from the one or more input type secondary stations and from the one or more output type secondary stations and configured to retry the polling requests to abnormally responding input type secondary stations and the refresh requests to abnormally responding output type secondary stations, all within the predetermined fixed period of time (column 4, lines 1-5, column 7, lines 53-55, column 8, lines 1-5, 20-23).

Ilg does not explcitly disclose:

- Primary station configured for sending a synchronization requests to all input type secondary stations;

- One or more input type secondary stations configured for preparing data for transfer in response to a synchronization request from a primary station.

However, in an analogous art, Gilbert discloses transmitting a synchronization signal

from the central station to the plurality of remote stations (column 3, lines 26-45, 55-68,

column 7, lines 63-68, column 9, lines 35-41).

Therefore, one of ordinary skill in the art at the time the invention was made

would have found it obvious to implement or incorporate Gilbert's synchronization

request and response in Ilg's system in order to define the start of a reservation request

period allocating fixed time slots during which any remote station having a data

message to transmit may request access and reserve a portion of the channel for their

data messages.

As per claim 28, Ilg discloses the system of claim 27, wherein the primary station is

configured for sending the synchronization requests to a11 input type secondary

stations simultaneously (column 3, lines 4-15).

As per claim 29, Ilg discloses the system of claim 28, wherein the primary station is

configured for sending the polling requests to all input type secondary stations

sequentially (column 1, lines 36-47).

As per claim 30, Ilg discloses the system of claim 27, wherein the primary station is

configured for sending the polling requests to all abnormally responding input type

secondary stations sequentially (column 7, lines 53-55, 60-62).

As per claim 31, Ilg discloses the system of claim 28, wherein the primary station is configured for sending the refresh requests to all output type secondary stations sequentially (column 9, lines 14-38).

As per claim 32, Ilg discloses the system of claim 27, wherein the primary station is configured for sending the refresh requests to all abnormally responding output type secondary stations sequentially (column 9, lines 14-38).

As per claim 33, Ilg discloses the system of claim 27, wherein the primary station is configured for individualizing the refresh request for each output type secondary station (column 9, lines 14-30).

As per claim 34, Ilg discloses the system of claim 33, wherein the primary station is configured for packaging individualized data that a particular output type secondary station outputs external to the system in the individualized refresh request (column 1, lines 17-19, column 2, lines 20-22, 47-50).

Response to Arguments

The Office notes the following arguments:

(a)   Independent claims have been amended to overcome all cited prior art.

(b)   Independent claims have been amended to clarify input and output type
secondary stations.

8.   Applicant's arguments filed have been fully considered but they are not
persuasive.

In response to:

(a)   Examiner notes that the independent claims have not all been amended in the
same manner. Therefore, not all independent claims can be rejected in the same
manner. As well, Ilg and Gilbert still apply as prior art.

(b)   There is no clarification in the claims as to output and input type secondary
stations.

Conclusion

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in
this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP
§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37
CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Barbara N. Burgess whose telephone number is (571)

272-3996. The examiner can normally be reached on M-F (8:00am-4:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 872-9306

for regular communications and (703) 872-9306 for After Final communications.
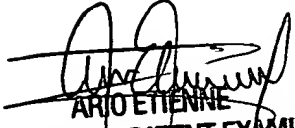
Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

3900.

Barbara N Burgess
Examiner
Art Unit 2157

May 2, 2005

ARJO ETIENNE
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